

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.

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REMARKS/ARGUMENTS

Applicants respectfully request reconsideration and allowance of this application in view of the amendments above and the following comments.

Regarding point 1 on page 2 of the Office Action, Applicants have amended the specification to make reference to the international application.

Claims 1-15 were rejected under 35 USC § 112, second paragraph, as being indefinite. In response, Applicants have amended the claims in such a way that, with the caveats explained below, the Examiner's concerns are believed to be overcome.

With respect to point 5 on page 2 of the Office Action, Applicants perceive no indefiniteness in the term "growing." Such term would readily be understood by persons of ordinary skill in the art, and, therefore, cannot be indefinite, as a matter of law. Further on this point, Applicants point out that metal salt nanoparticles within the meaning of the present invention exhibit a crystal lattice (p. 1, lines, 9-16). The word "growing" applied to preparation of crystal structure is clear to persons of ordinary skill in the art and considers both size and weight but particularly size.

With respect to point 6, Applicants submit that the phrases "synthesis mixture" and "synthesis period" also are definite. The synthesis mixture comprises the starting materials of the nanoparticles (p. 6, l. 16-17 exemplified on p. 19, l. 20 to p. 21, l. 32). The state of the art

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functionalizes the synthesized nanoparticles in a complex multistep preparation. It is the purpose of the present invention to simplify the synthesis of functionalized nanoparticles. This is achieved in adding the modifying reagent exhibiting a first functional group for coupling to the nanoparticle and a second functional group for binding to further molecules into the mixture of starting materials thus functionalizing nanoparticles in situ immediately during their synthesis (p. 5, l. 22-24).

Further, in view of the foregoing, it is clear that the synthesis period is equivalent to the growing time of the nanoparticles.

With respect to point 7, here, again, Applicants submit that what is intended would be clear to persons having ordinary skill in the art. Applicants remind the Examiner that terms in a claim are not to be considered in a vacuum, but in the light of the specification. Also, Applicants point out that claim 1 has been amended to define the chemical structure of the modifying reagent in accordance with the specification at p. 4, l. 21-24. The amended claim 1 also overcomes point 8 in canceling the objectionable language, and functional groups are defined in new claims 16 and 17, which are supported, respectively, by p. 5, l. 15-16 and p.4 l. 28 to 30.

With respect to points 9 and 10, Applicants have amended claim 3 to recite the alternatives in positive terms.

With respect to point 11, Applicants have amended claims 4, 14 and 15 in a manner that obviates the need for antecedent basis.

With respect to point 12, claim 5 has been canceled.

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Finally, with respect to claim 13, in claim 6 the word “also” has been deleted.

In view of the foregoing, Applicants submit the claims are now definite. An early notice to that effect is earnestly solicited.

Claims 1-3 and 13 were rejected under 35 USC § 112, first paragraph, as being broader than the enabling disclosure. In response, Applicants point out that as the proponent of this rejection, the burden is squarely on the Examiner to make out a *prima facie* case of lack of enablement. The Examiner points to a lack of working examples, but Applicants respectfully submit that 35 USC § 112, first paragraph, does not require working examples. The Examiner also alleges that undue experimentation would be required to practice the full scope of the present invention. However, the Examiner does not explain in any detail why undue experimentation is required. In the absence of such explanation, the Examiner has not made out a *prima facie* case of lack of enablement.

The fact of the matter is that the method of the present invention describes a method for functionalizing metal salt nanoparticles in situ adding a modifying reagent to the synthetic mixture. The composition of the synthesis mixture used to synthesize corresponding non-functionalized metal salt nanoparticles is already known in the state of the art. The Examiner has not explained, and none is self-evident, why extension of the state of the art to the present invention by adding a modifying reagent should cause undue experimentation to result. Applicants submit that no such undue experimentation results. While some experimentation may be required, such experimentation is merely routine, and what persons skilled in the art would be expected to encounter, and, therefore, not undue.

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While the Examiner cites to *In re Wands*, 8 USPQ2d 1404 (Fed. Cir. 1988), as noted above, he does not discuss the *Wands* factors in any detail, other than the number of working examples. However, the other factors must be considered and then balanced before a conclusion of undue experimentation can be reached. The Examiner has not discussed and balanced the other *Wands* factors. Applicants respectfully submit that the quantity of experimentation necessary, the nature of the invention, the state of the art, relative level of skill in the art, and predictability in this narrow range are all factors that support enablement in this case.

For the foregoing reasons, Applicants respectfully submit that the enablement is sufficient. An early notice that this rejection has been reconsidered and withdrawn is, therefore, earnestly solicited.

Claim 1 was rejected under 35 USC § 112, second paragraph, as being incomplete for omitting essential steps. In response, Applicants submit that claim 1, as written, reflects what Applicants regard as their invention, and does not omit essential steps. In this regard, Applicants point out that 35 USC § 112, second paragraph, provides that the claims must “[particularly] point out and distinctly [claim] the subject matter which *the applicant* regards as his invention.” Applicants respectfully request that the Examiner accept that claim 1 particularly points out and distinctly claims what Applicants regard as their invention.

Further on this point, Applicants point out that, for example, a growing step as mentioned by the Examiner is merely optional and strongly depends on crystal growth capacity of the synthetic mixture (p. 11, l. 9-26). Said growing capacity is usually known from the prior art describing the preparation of the corresponding non-functionalized nanoparticles.

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Claims 11-13 were rejected under 35 USC § 112, second paragraph, as being indefinite for reciting a use without setting forth any steps. In response, Applicants have recast claims 11-13 as proper U.S. process claims.

Claims 11-13 were rejected under 35 USC § 101 as being improper process claims. In response, as noted above, Applicants have recast claims 11-13 as proper U.S. process claims.

Claims 1-3 and 5-6 were rejected under 35 USC § 102(e) as being anticipated by Haubold et al. ("Haubold"), US20030032192A1. In response, Applicants would remind the Examiner that anticipation requires that each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference, and, further, the absence in the prior art reference of even a single one of the claim elements is sufficient to negate anticipation. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Haubold describes the preparation of metal salt nanoparticle under controlled crystal growth conditions for a narrow size distribution. However, Haubold does not describe how to prepare nanoparticles exhibiting a functional group for binding to further molecules.

Haubold also does not describe or teach that adding a modifying agent exhibiting a first functional group for coupling to the nanoparticle and a second functional group for binding to further molecules into the synthesis mixture is an easy and convenient way to the targeted functionalized nanoparticles. The nanoparticles of Haubold require further functionalization steps to be able to bind further molecules as targeted in the present invention.

In view of the foregoing, Applicants respectfully submit that Haubold does not anticipate the present claims. An early notice to that effect is earnestly solicited.

Claims 4 and 14-15 were rejected under 35 USC § 103(a) as being obvious over Haubold. In response, Applicants point out that this rejection was premised on Haubold constituting an anticipation of the basic aspects of the present invention. Since this premise has been shown above to have been in error, Applicants respectfully request that the Examiner reconsider and withdraw this rejection as well.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding objections and rejections.

Applicants also believe that this application is in condition for immediate allowance. However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,
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